



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/450,271      | 11/26/1999  | MANAMI KUISEKO       | 018656-107          | 7399             |

21839 7590 07/21/2003

BURNS DOANE SWECKER & MATHIS L L P  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER

THOMPSON, TIMOTHY J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2873

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/450,271

Applicant(s)

KUISEKO ET AL.

Examiner

Timothy J Thompson

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,9,10,13,14,21-26 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,9,10,13,14,21-26 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

Since claims 9, 10 and 28 were not addressed in the Final Rejection, mailed 09/16/02. This new Final Rejection is being sent out with claims 9, 10 and 28 being addressed, in addition to the other claims. The time for response has been reset. Note the section below with the heading "Response to Arguments" pertains to arguments raised in paper number 19, received on 12/16/02.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 25 rejected under 35 U.S.C. 102(a) as being anticipated by Braun (U.S. Patent No. 4,121,890).

Regarding claims 25, Braun discloses a lens element for focusing incident luminous flux at a predetermined position(fig 1, **24**), the lens element having a first concave surface (fig 1, **18**, col 3, lines 33 and 34, since surface can be curved it inherently could then be concave) to the long conjugate distance side and a second convex surface(fig 1, **22**) and a luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second

surface, is again reflected at a central part of the first surface(fig 1, 18 and 22 as detailed by col 2, lines 50-57) imaged on an optical axis of the lens element(since it is imaged at the focal point of the lens(fig 1, 24) and the lens is symmetrical as shown by the reflecting light in figure 1.

Claim 28 rejected under 35 U.S.C. 102(a) as being anticipated by Tsunashima (U.S. Patent No. 6,169,637).

Regarding claims 28, Tsunashima discloses a lens element for focusing incident luminous flux at a predetermined position(fig 1, **14**), the lens element having, from the long conjugate distance side, a first concave surface to the long conjugate distance side(fig 1, **16**) and a second surface convex to a side opposite to the long conjugate distance side(fig 1, **18**) wherein the luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface(fig 1, 16 and 18 as detailed by col 4, lines 33-57) .

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 13, 14 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun (U.S. Patent No. 4,121,890) in view of Medina Puerueta et al.(U.S. Patent No. 5,638,219).

Regarding claims 1, Braun discloses a lens element for focusing incident luminous flux at a predetermined position(fig 1, **24**), the lens element having a first convex surface(fig 1, **18**, col 3, lines 33 and 34) to the long conjugate distance side and a second convex surface(fig 1, **22**) and a luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface(fig 1) imaged on an optical axis of the lens element(since it is imaged at the focal point of the lens(fig 1, **24**) and the lens is symmetrical (as shown by the reflecting light in figure 1). Braun does not disclose the second surface is aspherical. However, Medina Puerueta et al. discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Puerueta et al., in the optical lens of Braun, since as shown by Medina Puerueta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 2, a modified Braun, as detailed in claim rejection 1 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina Puerueta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place aspherical surfaces on both sides of the lens,

as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Regarding claim 13, Braun discloses a lens element having a first convex surface (fig 1, **18**, col 4, lines 33 and 34, since surface can be curved it inherently could then be concave) to the long conjugate distance side thereof with a reflectance coating on the central portion (fig 1, **18**, col 2, lines 45-50) and a light admitting area at the peripheral of the reflective coating (fig 1, **16**), and a second convex surface on the opposite side thereof (fig 1, **22**) with a reflective coating on the peripheral portions thereof (as indicated by fig 1), wherein at least one of the first and second surfaces is convex. (fig 1, **22**). Braun does not disclose the second surface is aspherical. However, Medina Pueruerta et al. discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 14, a modified Braun, as detailed in claim rejection 13 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina Pueruerta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place aspherical surfaces on both sides of the lens,

as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 24, a modified Braun, as detailed in claim rejection 13 above, does not disclose the lens is molded glass. However, Medina Pueruerta et al. the lens is molded glass (col 2, lines 10-15). It would have been obvious to one skilled in the art, at the time of the invention, to form the lens from a molded glass, as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., lens are commonly formed from a molded glass so as to achieve the desired refractive properties of the lens.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunashima (U.S. Patent No. 6,169,637) in view of Medina Pueruerta et al.(U.S. Patent No. 5,638,219).

Regarding claims 9, Tsunashima discloses a lens element for focusing incident luminous flux at a predetermined position(fig 1, **14**), the lens element having, from the long conjugate distance side, a first concave surface to the long conjugate distance side(fig 1, **16**) and a second surface convex to a side opposite to the long conjugate distance side(fig 1, **18**) wherein the luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface(fig 1, 16 and 18 as detailed by col 4, lines 33-57). Tsunashima does not disclose the second surface is aspherical. However, Medina Pueruerta et al.

discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Tsunashima, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 10, a modified Tsunashima, as detailed in claim rejection 9 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina Pueruerta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place aspherical surfaces on both sides of the lens, as shown by Medina Pueruerta et al., in the optical lens of Tsunashima, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Claims 21-23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun (U.S. Patent No. 4,121,890), as detailed in claim rejection 25 above, and view of Medina Pueruerta et al.(U.S. Patent No. 5,638,219).

Regarding claims 21, a modified Braun, as detailed in claim rejection 25 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina Pueruerta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at



the time of the invention, to place aspherical surfaces on both sides of the lens, as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 22, a modified Braun, as detailed in claim rejection 21 above, does not disclose the first surface is aspherical. However, Medina Pueruerta et al. discloses the first surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the first surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the first surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 23, a modified Braun, as detailed in claim rejection 21 above, does not disclose the second surface is aspherical. However, Medina Pueruerta et al. discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 26, a modified Braun, as detailed in claim rejection 25 above, does not disclose the lens is molded glass. However, Medina Pueruerta et al. the lens is molded glass (col 2, lines 10-15). It would have been obvious to

one skilled in the art, at the time of the invention, to form the lens from a molded glass, as shown by Medina Pueruerta et al., in the optical lens of Braun, since as shown by Medina Pueruerta et al., lens are commonly formed from a molded glass so as to achieve the desired refractive properties of the lens.

### ***Response to Arguments***

Applicant's arguments filed 19 Aug 2002 have been fully considered but they are not persuasive. Regarding the applicant's argument that Braun does not disclose an aspherical surface and specifically discloses the surface is spherically shape. Although, Braun discloses the lens has a spherical surface, he doesn't state that the invention cannot incorporate an aspherical surface, Braun is merely disclosing that his lens has a spherical surface. Since it has been commonly known in the lens art to form a surface of the lens aspherically (departing slightly from the spherical form), so as to correct aberrations, it would have been perfectly obvious for one skilled in the are to use an aspherical surface. The bottom line is, taking a lens and placing an aspherical surface on one side or both of a lens to correct for aberrations has been commonly done for years and I could pull hundreds of optical systems which have done this. It simply is not a novel limitation. Regarding the surfaces being reflective. Figure 1, discloses the light flux being reflected off of both surfaces(fig 1, 18 and 22 as detailed by col 2, lines 50-57), therefore this is a reflective surface.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.

T.J.T.  
7/14/03

  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800